

REMARKS

Claims 1-14 are pending in the application. Claims 8-14 were rejected under 35 USC 102(a) as being anticipated by Sezan, et al. US Patent No. 6,236,395. Applicants respectfully disagree.

Amended claim 8 requires a demultiplexing and decoding module to extract program-related information, wherein the program-related information is an MPEG-2 encoded audiovisual program, PSIP data, and references to key-clips. Sezan does not show, teach nor suggest such a demultiplexing and decoding module. Sezan does not disclose extracting MPEG-2 encoded programs, or the Program and System Information Protocol data. In essence, Sezan discloses a *description scheme*, the instant invention as claimed claims an implementation of a *system* that may use a description scheme under the MPEG-2 standard and its associated components. Similarly, Sezan does not disclose a summarizer that uses PSIP data and references to key-clips to create the summaries.

Amended claim 8 now requires both a short-term and a long-term memory. The short-term memory allows the user to store programs and/or their associated summaries. This provides the user quick access to some content. The long-term memory allows storage of larger amounts of programs and their associated summaries. In Sezan, a data storage unit 50 is shown, but it does not state whether it is long-term or short-term storage. As the Examiner states in the arguments with regard to claim 11, at column 9, lines 19-22 the storage unit of Sezan appears to be analogous to the short-term storage of the instant application. The short-term storage of the instant application is accessible through the graphical user interface, as is the memory discussed in Sezan. Therefore, Sezan does not teach, disclose nor suggest two different types of memory in the receiver discussed therein. Therefore, Applicants submit that claim 8 is patentably distinguishable over the prior art and request allowance of this claim.

With regard to claim 9, Sezan does not show a receiver with a decoding and demultiplexing module to produce program-related information, as program-related information is defined in claim 8, for within program filtering of audiovisual programs, where the receiver also includes both short-term and long-term storage. Therefore, Applicants submit that claim 9 is patentably distinguishable over the prior art and request allowance of this claim.

With regard to claim 10, Sezan does not show that program-related information further comprises description information used as indices for archival of audiovisual programs in conjunction with long-term storage and short-term storage. More than likely, the

storage of program-related information for database indexing would occur in the long-term storage. However, there is no analogy to such long-term storage in Sezan, as discussed above. Sezan merely mentions a storage unit and a filtering and browsing module that may be used to store/archive programs. However, under 35 USC 102(a), to anticipate a claim, the reference must teach every element of the claim (MPEP 2131). There are several manners in which the Sezan description scheme could implement storing and archiving. There is no mention of a database, or using a description scheme as the indices for a database as is claimed in claim 10. Therefore, Applicants submit that claim 10 is patentably distinguishable over the prior art and request allowance of this claims.

With regard to claim 11, Sezan does not show a receiver where a register of user preferences used to create summaries that can be stored in both long-term and short-term storage. Further, Sezan does not show a receiver where user preferences are used not only by a summarizer module but also by the decoding and demultiplexing module to account for user preferences at the intake of an MPEG-2 encoded audiovisual program with its associated PSIP data and references to key-clips. Therefore, Applicants submit that claim 11 is patentably distinguishable over the prior art and request allowance of this claim.

With regard to claim 12, Sezan does not show several elements of the claimed invention and therefore does not anticipate Applicants' invention as claimed. It appears that the Examiner is inferring functionality to the analysis module 42 of Sezan that is not necessarily inherent in that module. Applicants' claim 12 requires a "description extraction module," "a program and system information extraction module," "an inference engine," "a key-clip map table," "a key-clip extraction module," and "a summary composition module."

Taking these components one at a time, Applicants are confused as the Examiner's assertion that the Sezan reference includes all of these components. Apparently, the Examiner has inferred that the analysis module 42 of Sezan is equivalent to the description extraction module and the program and system information extraction module. However, there is no teaching or suggestion of either an inference engine or a key-clip map table. If the Examiner intended to show that the analysis module 42 is also the inference engine, Applicants submit that this is not inherent to the functions of the analysis module as the program-related information could be produced in other ways. There is not enough information disclosed in the Sezan reference to indicate that this component is anticipated by Sezan.

Additionally, the Examiner's reference to component 76 in Sezan as being a key-clip extraction table, Applicants believe the Examiner errs. Component 76 in Sezan is described

as a key-frame summarizer. See col. 8, line 54. A component that produces key-frame summaries is not the same as a key clip extraction module that extracts key clips from an audiovisual program. Applicants had mis-named the key-clip extraction module a key-clip extraction table in a typographic error. However, in referring to Figure 5, it can be seen that the component is a key-clip extraction module. If the Examiner's position were that a key-frame summary is the same as a key-clip, then it would follow that the summaries of Sezan are vastly different than the summaries of the Applicants' invention as claimed. If the Examiner acknowledges that they are different, then the Sezan reference does not teach nor suggest a key clip extraction module.

The standard to be met for anticipation is that the cited reference must show each component of the claimed invention. *Verdegal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 2 USPQ2d 1051. As the cited reference is missing several components of the Applicants' invention as claimed in claim 12, Applicants submit that claim 12 is patentably distinguishable over the prior art and request allowance of this claim.

Claims 13 and 14 depend from claim 12 and should be ruled allowable for that reason and for their own merits. As discussed in detail above, Sezan does not show an inference engine, much less an inference engine that uses other available program related information, where that other information is either user preferences or information from the world wide web. Therefore, Applicants submit that claims 13 and 14 are patentably distinguishable over the prior art and request allowance of these claims.

Claims 1-7 were rejected under 35 USC 103(a) as being unpatentable over the prior over Ramaswamy, US Patent No. 6,295,647, in view of Sezan, US Patent No. 6,236,395. Applicants respectfully disagree on the grounds that combination of references is invalid and that the combination of references does not teach or suggest all the claim limitations of Applicants invention as claimed.

Applicants do not believe the combination of references to be valid. Ramaswamy teaches the insertion of executable code into a video stream, such as code that displays a user interface and receives signals from the user during an interactive video program. Sezan is directed to a digital television receiver at the user end. The Examiner asserts that Sezan teaches description schemes in a receiving system, not a transmitting system. See Sezan col. 7, line 55 through col. 8, line 8. Combining a transmission scheme for executable code such as in Ramaswamy with a description scheme in which non-executable data may be extracted from a transmitted signal as in Sezan is invalid. There is no suggestion of using executable code in Sezan, nor is there any suggestion of including auxiliary data for the creation of

summaries at the receiving end in Ramaswamy, nor any indication of the desirability thereof. Therefore, Applicants submit that the combination of references is invalid.

If, however, the combination of the reference were to be considered valid, Applicants submit that the combination of references would render the systems and method disclosed in either reference inoperable. Including executable code into a broadcast from Ramaswamy would result in portions of the received information that would not fit into the description scheme of Sezan, rendering the description scheme of Sezan inoperable at the receiving end. Similarly, the description scheme of Sezan has no means by which to operate upon executable code and would therefore render the broadcast from Ramaswamy inoperable. Therefore, Applicants submit that the combination of references is inoperable.

If, however, the combination of references were to be considered operable, Applicants do not believe that the combination of references teach all of the limitations of the Applicant invention as claimed in claims 1-7. Claim 1 requires a 'data service encoder...to receive key clip data and PSIP data' to create a data broadcast service. The context editor of Ramaswamy is to coordinate the timing of the execution of the code included with the broadcast to ensure that the execution occurs with the proper image display. The text referenced by the Examiner in Sezan merely sets forth the general functions of the description scheme in a receiving system. This combination of references does not render obvious a data services encoder that finalizes the contents of a data broadcast service that will be broadcast as an MPEG-2 transport stream. Therefore, Applicants submit that claim 1 is patentably distinguishable over the prior art.

With regard to claims 2 and 3, the combination of references does not teach the identification of key clips at the transmitting end using neither system time nor the PCR/LTR MPEG-2 pair. Therefore, Applicants submit that claims 2 and 3 are patentably distinguishable over the prior art and request allowance of these claims.

With regard to claim 4, there is no suggestion in the combination of references of the use of a video reference generator. As the Examiner states, there is no illustration of such a component in Ramaswamy or Sezan. Therefore the combination does not teach all of the claimed limitations. Applicants submit that claim 4 is patentably distinguishable over the prior art and request allowance of these claims.

The combination of references does not teach using start and ending flags within an MPEG-2 transport stream to identify key clips within an audiovisual program as is required by Applicants claim 5. Ramaswamy does not address key clips in any fashion, and Sezan does not show reception of key clip references, but describes instead a description scheme in

which key frames are created at the receiver. Applicants submit that claim 5 is patentably distinguishable over the prior art and requests allowance of this claim.

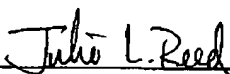
With regard to claims 6 and 7, the combination of references does not address the inclusion of a defined format in which key clips are identified at the transmitting end. If the combination of references were considered valid and operable, the resulting combination would include starting and ending references to segments of executable code contained within an audiovisual program that would be ignored at the receiving end. The Sezan reference is directed to identifying key clips at the receiving end, there is no indication that the description scheme is applied at the transmitting end. Applicants submit that claims 6 and 7 are patentably distinguishable over the prior art and request allowance of these claims.

Applicants detected some minor errors in the formal drawings already submitted. A proposed drawing change is attached to this amendment and substitute formal drawings for those drawings changed will be submitted under separate cover.

No new matter has been added by this amendment. Allowance of all claims is requested. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (Twice amended) A system for providing a digital television data broadcast service, comprising:

a data service authoring subsystem operable to receive an audiovisual program and to provide key clip data in a defined format identifying key clips of [an] the audiovisual program;

a data service encoder operable to receive said key clip data and [program and system information] Program and System Information Protocol data and finalize contents of said data broadcast service; and

an MPEG-2 system multiplexer operable to multiplex said contents of said data broadcast service with encoded audiovisual programs and produce a MPEG-2 [data] transport stream to be broadcast to at least one client receiver.

2. (Once amended) The system as claimed in claim 1, wherein key clips are references using Program and System Information Protocol system time.

3. (Once amended) The system as claimed in claim 1, wherein said key clips are referenced using Local Time [which can be] reconstructed in the receiver from transmitted MPEG-2 Program Clock References (PCR) and Local Time References pair.

8. (Twice amended) A receiver operable to receive and operate upon a digital television data broadcast service, comprising:

[a filter module operable to produce program-related information from said digital television broadcast service, wherein said program-related information includes key clips of audiovisual programs];

a demultiplexing and decoding module to extract program-related information, wherein the program-related information further comprises an MPEG-2 encoded audiovisual

program, Program and System Information Protocol data, and references to key-clips from the digital television data broadcast service;

a summarizer operable to receive the audiovisual program PSIP data and references to key-clips and to create summaries of the audiovisual program;

a navigation module operable to allow a user to browse said program-related information;

[a summarizer operable to create summaries of said audiovisual programs;]

a short-term memory to allow short-term storage of at least one of the programs and the summaries; and

a long-term memory to allow long-term storage of the programs and the summaries, wherein the long-term storage is accessible from the navigation module..

9. (Once amended) The receiver as claimed in claim 8, wherein said [filter module] decoding and demultiplexing module is operable to produce program-related information for within-program filtering of audiovisual programs.

10. (Once amended) The receiver as claimed in claim 8, wherein said program-related information further comprises description information [for] usable as indices for database [indexing for] archival of said audiovisual programs.

11. (Once amended) The receiver as claimed in claim 8, wherein said receiver further comprises a register of user preferences, wherein said [filter module] decoding and demultiplexing module and said summarizer use said user preferences in generating said program-related information and said summaries.

12. (Twice amended) A program summarizer operable to receive a data broadcast service for filtering and generating summaries of audiovisual programs, comprising:

a description extraction module operable to parse and extract an audiovisual program description provided by said data broadcast service;

a program and system information extraction module operable to extract the program and system information protocol (PSIP) information and MPEG-2 System Information from said data broadcast service;

an inference engine operable to combine said audiovisual program description with said PSIP information, user preferences and any other available program information to produce[ing] program-related information and key-clip information;

a [program] key-clip map table operable to take said program-related information and produce a map of video references and times;

a key clip extraction [table] module operable to extract key clips from said audiovisual program; and

a summary composition module operable to produce summaries of said audiovisual program and provide it to a viewer.

13. Canceled.